

**AMENDMENTS TO THE CLAIMS**

1. (Currently Amended) A system providing access points to a communication network, the system comprising:

a first radio node for providing a device with access to the communication network, wherein the radio node has a first set of access point components;

a second radio node for providing a device with access to the communication network, wherein the second radio node has a second set of access point components; and wherein the second set of access point components are different from the first set of access point components;

a controller node remotely located from ~~coupled to~~ the first radio node and the second radio node and communicatively coupled to the first and second radio nodes via a remote communication link, wherein the controller node has a third set of access point components complementary to the first and second set of access point components, and

wherein one of the access points provided to the communication network comprises a combination of the first set of access point components and the third set of access point components, and another one of the access points provided to the communication network comprises a combination of the second set of access point components and the third set of access point components; and

a system controller for controlling the first and second radio nodes, wherein the system controller is configured using a physically distributed hosting function incorporated into at least one of the first radio node, the second radio node, and the controller node, and wherein the system controller is logically centralized.

2. (Currently Amended) The system of Claim 1 wherein each of the first set of access point components and the second set of access point components ~~both includes only~~ a radio component, and wherein the third set of access point components includes a physical layer component, a medium access control (MAC) layer component, and an access point (AP) software component.

3. (Currently Amended) The system of Claim 1 wherein the first set of access point components and the second set of access point components both include ~~only~~ a radio component and a physical layer component, and wherein the third set of access point components includes a medium access control (MAC) layer component, and an access point (AP) software layer component.

4. (Currently Amended) The system of Claim 1 wherein the first set of access point components and the second set of access point components both include ~~only~~ a radio component, a physical layer component, and a medium access control (MAC) layer component, and wherein the third set of components includes ~~only~~ an access point (AP) software layer component.

5. (Cancelled)

6. (Currently Amended) The system of Claim 1 wherein the remote communication link is a wireless link.

7. (Currently Amended) The system of Claim 1 wherein the remote communication link is a Bluetooth link.

8. (Currently Amended) The system of Claim 1 wherein the remote communication link is an IEEE 802.11 link.

9. (Currently Amended) The system of Claim 1 wherein the remote communication link is a wired link.

10. (Currently Amended) A method for distributing access point components in a data communication network, the method comprising:

grouping a first set of access point components in each of multiple radio node components;

grouping a second set of access point components in at least one controller node component remotely located from each of the multiple radio components; and

forming distributed access points by establishing a remote communication link connecting between respective ones of the multiple radio node components and the at least one controller node component via a communication link;

wherein each of the multiple radio node components communicate with the at least one controller node component over the remote communication link ~~data communication network is under-using at least one~~ of the IEEE 802.11, IEEE 802.15, or and IEEE 802.16 network standards.

11. (Currently Amended) The method of Claim 10 wherein the first set of access point components includes ~~only a~~ radio component, and wherein the second set of access point components includes a physical layer component, a medium access control (MAC) layer component, and an access point (AP) software layer component.

12. (Currently Amended) The method of Claim 10 wherein the first set of access point components includes ~~only a~~ radio component and a physical layer component, and wherein the second set of access point components includes a medium access control layer (MAC) component, and an access point (AP) software

layer component.

13. (Currently Amended) The method of Claim 10 wherein the first set of access point components includes a radio component, a physical layer component, and a medium access control (MAC) layer component, and wherein the second set of access point components includes ~~only an~~ access point (AP) layer software component.

14. (Currently Amended) A system providing access to a communication network, the system comprising:

an access point radio node comprising a first set of access point components;

an access point controller node in communication with the access point radio node, wherein the access point controller node comprises a second set of access point components distinct from the first set of access point components, wherein the access point controller node is ~~physically separated~~remotely located from the access point radio node, and wherein the first set of access point components is communicatively coupled to the second set of access point components to form a distributed access point;

a system controller for controlling at least one of the access point radio node and the access point controller node; and

a wireless remote communication link for ~~connecting~~communicatively coupling the access point radio node, the access point controller node, and the system controller.

15. (Original) The system of claim 14 wherein the system controller is implemented in a physical switch.

16. (Original) The system of claim 14 wherein the system controller is

implemented in a physically distributed hosting function incorporated into at least one of the access point radio node and the access point controller node, and wherein the system controller is logically centralized.

17. (Original) The system of claim 14 wherein the access point radio node further comprises a remote link driver configured to extend a bus between a baseband access point component in the access point controller node and a radio access point component in the access point radio node.

18. (Original) The system of claim 14 wherein the access point radio node further comprises a remote link driver configured to carry a digitized radio frequency baseband signal through a tunnel for transport to the access point controller node via the communication link.

19. (Currently Amended) A computer-readable medium ~~whose~~ having contents stored thereon which control providing access to a communication network via an access point system comprising:

multiple radio nodes each comprising a first set of access point layers;  
an access point controller in communication with the multiple radio nodes,  
wherein the access point controller comprises a second set of access point layers distinct from the first set of access point layers, wherein the access point controller is physically separated from at least some of the multiple radio nodes; and

a remote communication link for connecting the each of the radio nodes to the access point controller to form multiple wireless network access points;

wherein the remote communication ~~network-link~~ is under one of the IEEE 802 family of network standards.

20. (Original) The computer-readable medium of claim 19 wherein the computer-readable medium is contained in a physical switch, and wherein the physical switch is distinct from the multiple radio nodes and the access point controller.

21. (Original) The computer-readable medium of claim 19 wherein the system controller is contained in a physically distributed hosting function incorporated into at least one of the access point controller and the multiple radio nodes.

22. (Original) The computer-readable medium of claim 19 wherein the computer-readable medium is a logical node in a computer network receiving the contents.

23. (Original) The computer-readable medium of claim 19 wherein the computer-readable medium is a computer-readable disk.

24. (Original) The computer-readable medium of claim 19 wherein the computer-readable medium is a data transmission medium transmitting a generated data signal containing the contents.

25. (Original) The computer-readable medium of claim 19 wherein the computer-readable medium is a memory of a computer system.